

WHAT IS CLAIMED IS:

1. A modular automatic spray gun manifold comprising:
a plurality of spray gun modules arranged in an array in laterally spaced relation from each other;
a plurality of support assemblies with one support assembly being arranged between each adjacent pair of spray gun modules for supporting the adjacent pair of spray gun modules relative to each other, each second support assembly including a plurality of fluid conduits for communicating fluid between the adjacent spray gun modules; and
one or more retaining elements extending through the spray gun modules and the support assemblies for securing the spray gun modules and support assemblies in assembled relation.
2. The spray gun manifold according to claim 1 wherein each spray gun module includes an external mix type spray nozzle and wherein one of the plurality of fluid conduits in each of the support assemblies communicates atomizing air to the spray gun modules.
3. The spray gun manifold according to claim 2 wherein the spray nozzle of each spray gun module includes an air cap and wherein one of the plurality of fluid conduits in each of the support assemblies communicates fan air to the respective air caps of the spray gun modules.
4. The spray gun manifold according to claim 1 wherein each spray gun module includes an actuator and wherein one of the plurality of fluid conduits in each of the support assemblies communicates control air to the respective actuators of the spray gun modules.
5. The spray gun manifold according to claim 1 wherein the plurality of fluid conduits of each support assembly are embedded in a block element.
7. The spray gun manifold according to claim 6 wherein each fluid conduit of each support assembly extends outwardly a distance beyond respective ends of the block element for insertion into corresponding passages in the spray gun modules with a threadless union therebetween.
8. The spray gun manifold according to claim 1 wherein the plurality of fluid conduits of each support assembly extend between end plates provided at opposite ends of the respective support assembly.

9. The spray gun manifold according to claim 1 further including a junction element arranged at an upstream end of the manifold that includes a liquid supply connection and a pressurized air supply connection.

10. The spray gun manifold according to claim 1 wherein one of the plurality of fluid conduits in each of the support assemblies is for recirculating fluid and further including a fluid return plate at a downstream end of the manifold that defines a fluid path permitting recirculation of fluid through the spray gun modules and the recirculating fluid conduits of the support assemblies in an upstream direction.

11. The spray gun manifold according to claim 1 wherein the one or more retaining elements comprises a retaining rod extending through each of the spray gun modules and each of the support assemblies.

12. A modular automatic spray gun manifold comprising:
a plurality of spray gun modules arranged in an array in laterally spaced relation from each other;
a junction element arranged at an upstream end of the manifold, the junction element including a liquid supply connection and a pressurized air connection;
a first support assembly arranged between the junction element and a first spray gun module in the spray gun module array for supporting the first spray gun module relative to the junction element, the first support assembly including a plurality of fluid conduits for supplying fluid to the first spray gun module, the fluid conduits in the first support assembly communicating with the liquid supply and pressurized air supply connections of the junction element;
one or more second support assemblies with one second support assembly being arranged between each adjacent pair of spray gun modules in the array of spray gun modules for supporting the adjacent pair of spray gun modules relative to each other, each second support assembly including a plurality of fluid conduits for communicating fluid between the adjacent spray gun modules such that fluid introduced into the manifold through the liquid supply and pressurized air supply connection of the junction element is communicated to and through each spray gun module; and
one or more retaining elements for securing the spray gun modules, support assemblies and junction plate in assembled relation.

13. The spray gun manifold according to claim 12 wherein each spray gun module includes an external mix type spray nozzle and wherein one of the plurality of fluid conduits in each of the support assemblies communicates atomizing air to the spray gun modules.

14. The spray gun manifold according to claim 13 wherein the spray nozzle of each spray gun module includes an air cap and wherein one of the plurality of fluid conduits in each of the support assemblies communicates fan air to the respective air caps of the spray gun modules.

15. The spray gun manifold according to claim 12 wherein each spray gun module includes an actuator and wherein one of the plurality of fluid conduits in each of the support assemblies communicates control air to the respective actuators of the spray gun modules.

16. The spray gun manifold according to claim 12 wherein the plurality of fluid conduits of each support assembly are embedded in a block element.

17. The spray gun manifold according to claim 16 wherein each fluid conduit of each support assembly extends outwardly a distance beyond respective ends of the block element for insertion into corresponding passages in the spray gun modules with a threadless union therebetween.

18. The spray gun manifold according to claim 12 wherein the plurality of fluid conduits of each support assembly extend between end plates provided at opposite ends of the respective support assembly.

19. The spray gun manifold according to claim 12 wherein one of the plurality of fluid conduits in each of the support assemblies is for recirculating fluid and further including a fluid return plate at a downstream end of the manifold that defines a fluid path permitting recirculation of fluid through the spray gun modules and the recirculating fluid conduits of the support assemblies in the upstream direction.

20. The spray gun manifold according to claim 1 wherein the one or more retaining elements comprises a retaining rod that engages the junction element and extends through each of the support assemblies and the spray gun modules.